

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. When strikethrough cannot easily be perceived, or when five or fewer characters are deleted, [[double brackets]] are used to show the deletion. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 4, 5, 9, 10, 15, 19, 20, 24, 25 and 30, and CANCEL claims 1, 6, 16, and 21 in accordance with the following:

1. (CANCELLED)

2. (CANCELLED)

3. (CANCELLED)

4. (CURRENTLY AMENDED) ~~The~~ A printer according to claim 1, further receiving and printing print data on one page, the print data being received from a host computer and comprising a plurality of different types of data, the printer comprising:

a separation unit separating the print data into separate sets of data according to the different types of data;

an image buffer having a plurality of storage locations, each storage location storing one type of data;

a storage unit storing each separate set of data in a different one of the storage locations of the image buffer;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding storage location of the image buffer;

a print data integration circuit integrating the separate sets of data read by the video interfaces;

an output mechanism outputting the integrated print data on one page; and

a plurality of image processing circuits, each of the image processing circuits applying an image process to the separate set of data read by a corresponding one of the video interfaces,

wherein the image process applied by each of the image processing circuits is respectively one of a smoothing process, an intermediate tone process, a low-resolution process, a high-resolution process, a run-length decompression process, and a Lempel-Ziv (LZ) decompression process.

5. (CURRENTLY AMENDED) ~~The~~A printer according to claim 1, receiving and printing print data on one page, the print data being received from a host computer and comprising a plurality of different types of data, the printer comprising:

a separation unit separating the print data into separate sets of data according to the different types of data;

an image buffer having a plurality of storage locations, each storage location storing one type of data;

a storage unit storing each separate set of data in a different one of the storage locations of the image buffer;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding storage location of the image buffer;

a print data integration circuit integrating the separate sets of data read by the video interfaces; and

an output mechanism outputting the integrated print data on one page,

wherein the plurality of separate sets of data stored in the image buffer are obtained by dividing the print data to be printed on one page into a plurality of bands, each of the bands corresponding to one of the different types of data, and wherein the print data integration circuit alternately selects the separate set of data read by each of the video interfaces and outputs the selected set of data to the output mechanism.

6. (CANCELLED)

7. (CANCELLED)

8. (CANCELLED)

9. (CURRENTLY AMENDED) ~~The~~A ~~controller according to claim 6, further controlling a printer to output print data on one page, the print data being received from a host computer and comprising a plurality of different types of data, the controller comprising:~~

a separation unit separating the print data into separate sets of data according to the different types of data;

a storage unit storing each separate set of data in a different one of a plurality of storage locations of an image buffer according to the different types of data;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding one of the plurality of storage locations of the image buffer;

a print data integration circuit integrating the separate sets of data read by the video interfaces; and

a plurality of image processing circuits, each of the image processing circuits applying an image process to the separate set of data read by a corresponding one of the video interfaces,

wherein the image process applied by each of the image processing circuits is respectively one of a smoothing process, an intermediate tone process, a low-resolution process, a high-resolution process, a run-length decompression process, and a Lempel-Ziv (LZ) decompression process.

10. (CURRENTLY AMENDED) ~~The~~A ~~controller according to claim 6, controlling a printer to output print data on one page, the print data being received from a host computer and comprising a plurality of different types of data, the controller comprising:~~

a separation unit separating the print data into separate sets of data according to the different types of data;

a storage unit storing each separate set of data in a different one of a plurality of storage locations of an image buffer according to the different types of data;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding one of the plurality of storage locations of the image buffer; and

a print data integration circuit integrating the separate sets of data read by the video interfaces,

wherein the plurality of separate sets of data stored in the image buffer are obtained by dividing the print data to be printed on one page into a plurality of bands, each of the bands corresponding to one of the different types of data, and wherein the print data integration circuit alternately selects the separate set of data read by each of the video interfaces and outputs the selected set of data to the output mechanism.

11. (CANCELLED)

12. (CANCELLED)

13. (CANCELLED)

14. (CANCELLED)

15. (CURRENTLY AMENDED) A method of processing print data to be printed on one page, the print data being received from a host computer and comprising a plurality of different types of data, the method comprising:

separating the print data into separate sets of data according to the different types of data;

storing each separate set of data in a different storage location;

reading each one of the separate sets of data;

applying a different image process to each one of the read separate sets of data; and

outputting the processed print data on one page,

wherein the image process applied is respectively one of a smoothing process, an intermediate tone process, a low-resolution process, a high-resolution process, a run-length decompression process, and a Lempel-Ziv (LZ) decompression process.

16. (CANCELLED)

17. (CANCELLED)

18. (CANCELLED)

19. (CURRENTLY AMENDED) ~~The~~An image forming apparatus ~~according to claim 16,~~
~~further~~ receiving and forming form data on one page, the form data being received from a host
computer and comprising a plurality of different types of data, the image forming apparatus
comprising:

a separation unit separating the form data into separate sets of data according to the
different types of data;

an image buffer having a plurality of storage locations, each storage location storing one
type of data;

a storage unit storing each separate set of data in a different one of the storage locations
of the image buffer;

a plurality of video interfaces independently reading a respective one of the separate
sets of data stored in a corresponding storage location of the image buffer;

a form data integration circuit integrating the separate sets of data read by the video
interfaces;

an output mechanism outputting the integrated form data on one page; and
a plurality of image processing circuits, each of the image processing circuits applying
an image process to the separate set of data read by a corresponding one of the video
interfaces;

wherein the image process applied by each of the image processing circuits is
respectively one of a smoothing process, an intermediate tone process, a low-resolution
process, a high-resolution process, a run-length decompression process, and a Lempel-Ziv (LZ)
decompression process.

20. (CURRENTLY AMENDED) ~~The~~An image forming apparatus ~~according to claim 16,~~
receiving and forming form data on one page, the form data being received from a host
computer and comprising a plurality of different types of data, the image forming apparatus
comprising:

a separation unit separating the form data into separate sets of data according to the
different types of data;

an image buffer having a plurality of storage locations, each storage location storing one type of data;

a storage unit storing each separate set of data in a different one of the storage locations of the image buffer;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding storage location of the image buffer;

a form data integration circuit integrating the separate sets of data read by the video interfaces; and

an output mechanism outputting the integrated form data on one page,

wherein the plurality of separate sets of data stored in the image buffer are obtained by dividing the form data to be formed on one page into a plurality of bands, each of the bands corresponding to one of the different types of data, and wherein the form data integration circuit alternately selects the separate set of data read by each of the video interfaces and outputs the selected set of data to the output mechanism.

21. (CANCELLED)

22. (CANCELLED)

23. (CANCELLED)

24. (CURRENTLY AMENDED) ~~The~~A controller according to claim 21, further controlling an image forming apparatus to output form data on one page, the form data being received from a host computer and comprising a plurality of different types of data, the controller comprising:

a separation unit separating the form data into separate sets of data according to the different types of data;

a storage unit storing each separate set of data in a different one of a plurality of storage locations of an image buffer according to the different types of data;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding one of the plurality of storage locations of the image buffer;

a form data integration circuit integrating the separate sets of data read by the video interfaces; and

a plurality of image processing circuits, each of the image processing circuits applying an image process to the separate set of data read by a corresponding one of the video interfaces,

wherein the image process applied by each of the image processing circuits is respectively one of a smoothing process, an intermediate tone process, a low-resolution process, a high-resolution process, a run-length decompression process, and a Lempel-Ziv (LZ) decompression process.

25. (CURRENTLY AMENDED) ~~The~~A controller according to claim 24, controlling an image forming apparatus to output form data on one page, the form data being received from a host computer and comprising a plurality of different types of data, the controller comprising:

a separation unit separating the form data into separate sets of data according to the different types of data;

a storage unit storing each separate set of data in a different one of a plurality of storage locations of an image buffer according to the different types of data;

a plurality of video interfaces independently reading a respective one of the separate sets of data stored in a corresponding one of the plurality of storage locations of the image buffer; and

a form data integration circuit integrating the separate sets of data read by the video interfaces.

wherein the plurality of separate sets of data stored in the image buffer are obtained by dividing the form data to be formed on one page into a plurality of bands, each of the bands corresponding to one of the different types of data, and wherein the form data integration circuit alternately selects the separate set of data read by each of the video interfaces and outputs the selected set of data to the output mechanism.

26. (CANCELLED)

27. (CANCELLED)

28. (CANCELLED)

29. (CANCELLED)

30. (CURRENTLY AMENDED) A method of processing form data to be formed on one page, the form data being received from a host computer and comprising a plurality of different types of data, the method comprising:

separating the form data into separate sets of data according to the different types of data;

storing each separate set of data in a different storage location;

reading each one of the separate sets of data;

applying a different image process to each one of the read separate sets of data; and
outputting the processed form data on one page,

wherein the image process applied is respectively one of a smoothing process, an intermediate tone process, a low-resolution process, a high-resolution process, a run-length decompression process, and a Lempel-Ziv (LZ) decompression process.
